

REMARKS

Claims 1, 2, 4 and 6 have been amended to remove figure reference numbers. Claim 1 has been further amended to correct a minor spelling and grammatical error. Claim 3 has been amended to correct a word processing error which resulted in duplication of text. These changes are believed to have no affect on claim scope. If they do affect claim scope, it is believed they broaden the scope.

New claim 7 depends on claim 4 and adds the limitation that "said primary and secondary cores have U shapes" as supported in the present specification (p. 10, lines 19-20).

This amendment introduces no new matter.

The Rejections

Claims 1-3 stand rejected under 35 U.S.C. §102(e) as being anticipated by Katsura et al. (US Patent 6,489,874). Claims 4-5 stand rejected under 35 U.S.C. §103(a) as unpatentable over Katsura et al. in view of Ono et al. (US Patent 6,075,433). Claim 6 stands rejected under 35 U.S.C. §103(a) as unpatentable over Katsura et al. in view of Wantanabe et al. (US Patent 5,907,231).

Applicant's Arguments

Applicants assert that the 102(e) rejection of claims 1-3 using the Katsura reference is now improper. The Katsura reference was filed in the U.S. on July 25, 2001. Although the Katsura patent claims priority to a Japanese application with a filing date of July 25, 2000, this foreign filing carries no weight with regard to invalidating another patent application (see MPEP 706.02(f)(1)). The 102(e) date of the Katsura reference is its U.S. filing date: July 25, 2001. The present application claims priority to Japanese

application 149661/2001, filed May 18, 2001. This priority claim is perfected: enclosed with this a submission is a certified English translation of that application, and a certified copy of the original Japanese application was filed with the present application, as recognized on the Office Action Summary Sheet mailed June 11, 2003. Hence, the date of invention of the present application predates the 102(e) date of Katsura reference, so the latter is not prior art. Therefore, the rejection of claims 1-3 is untenable and the Applicants respectfully request that it be withdrawn. Moreover, claims 4-7 all depend on claim 1, so for the above reason alone claims 4-7 are also allowable.

Further regarding the rejection of claim 4, the Ono reference discloses "an arrangement is made to dispose the secondary coil 6 and the primary coil 2 concentrically as shown in Fig. 10(a)" (Ono et al., col. 1, lines 47-49). It fails to teach, or even suggest, that "[t]he primary and secondary cores . . . have U shapes" as recited in the present specification (p. 10, lines 19-20) and in new claim 7, or that the U shapes are "produced from the rectangular core 16 by cutting along the surfaces 17a, 17b" as recited in the present specification. Additionally, the Ono reference fails to teach, or even suggest, that "the primary winding (12) and the secondary winding (14) are wound on each core in such a way that the windings overlap each other concentrically when the cores are connected" as recited in the present specification, page 6, lines 21-24. For the above reasons, and for the reason that claim 4 depends on allowable claim 1, Applicants respectfully traverse the rejection of claim 4.

Further regarding the rejection of claim 5, the abstract of the Ono reference discloses a ferrite core. The Ono reference fails to teach, or even suggest, that the core is made "of silicon steel sheets, a ferrite material or an amorphous material" as recited in claim 5 and supported in the specification (p. 5, lines 2-4), or that "[t]he core is not limited only to ordinary silicon sheet steel, and the use of a ferrite material or amorphous

material can increase the coupling efficiency” as recited in the present specification (p. 7, lines 5-7). For the above reasons, and for the reason that claim 5 depends on allowable claim 1, Applicants respectfully traverse the rejection of claim 5.

Further regarding the rejection of claim 6, the Watanabe reference discloses “the secondary core 21 and the secondary coil 22 are housed in a protective case made of a synthetic resin” (col. 3, lines 48-50). The Watanabe reference fails to teach, or even suggest, that the “primary winding (12) and secondary winding (14) are molded in plastic resin, separately” as recited in the present specification (emphasis added) (p. 7, lines 8-9). For the above reason, and for the reason that claim 6 depends on allowable claim 1, Applicants respectfully traverse the rejection of claim 6.

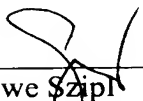
Conclusion

For all of the above reasons, claims 1-7 are now in condition for allowance. Therefore, Applicants respectfully request reconsideration of the application, and a prompt notice of allowance is earnestly solicited.

Questions are welcomed by the below signed attorney for the Applicants.

Respectfully submitted,

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This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) An electromagnetic connector for high voltages and large currents, comprising a primary winding (+2) connected to a high-voltage, large-current power supply(+), a secondary winding (+4) connected to an electromagnetic forming coil(+2), and a magnetic core (+6) for guiding the magnetic flux produced by the primary winding, into the secondary winding, wherein

the magnetic core (+6) comprises a primary core (+6a) with a primary winding and a secondary core (+6b) with a secondary winding,

the primary core and the secondary core are magnetically connected together by putting them in contact or in close proximity, and ~~separeated~~ separated from each other when the connector is disconnected.

2. (currently amended) The electromagnetic connector for high voltages and large currents, specified in Claim 1, wherein the magnetic core (+6) is a closed rectangle in shape, and the primary core (+6a) and the secondary core (+6b) comprise U-shaped structures produced from the rectangle by cutting the rectangle into two parts.

3. (currently amended) The electromagnetic connector for high voltages and large currents specified in Claim 2, wherein the cut surfaces of both the U-shaped structures are in close contact with each other or located close to each other when connected, and can be configured to keep a space between them when they are disconnected.

~~the two parts cut as above can be in close contact with each other or located close to each other when connected, and can be configured to keep a space between them when they are disconnected.~~

4. (currently amended) The electromagnetic connector for high voltages and large currents, specified in Claim 1, wherein the primary winding ~~(+2)~~ and the secondary winding ~~(+4)~~ are wound on each core ~~(+6a or +6b)~~ in such a manner that both windings ~~(+2, +4)~~ overlap each other concentrically, when the connector is connected.

5. (original) The electromagnetic connector for high voltages and large currents, specified in Claim 1, wherein the magnetic core comprises silicon steel sheets, a ferrite material or an amorphous material.

6. (currently amended) The electromagnetic connector for high voltages and large currents, specified in Claim 1, wherein the primary winding ~~(+2)~~ and the secondary winding ~~(+4)~~ are molded separately in a plastic resin.

7. (new) The electromagnetic connector for high voltages and large currents, specified in Claim 4, wherein said primary and secondary cores have U shapes.